

**REMARKS**

**I. Status of the Application**

Claims 1-82 are all the claims pending in the Application. Claims 3, 13-29, 32 and 42-82 are withdrawn from consideration. Claims 1, 2, 5, 30, 31 and 34 have been rejected.

The present Response addresses each point of objection and rejection raised by the Examiner. Favorable reconsideration is respectfully requested.

**II. Formalities**

The Examiner still has not acknowledged the claim for priority under 35 U.S.C. § 119 and has not acknowledged receipt of the certified copy of the priority document submitted on October 17, 2003. Applicant respectfully requests that the Examiner acknowledge the claim for foreign priority and receipt of the aforementioned priority document.

The Examiner did not indicate whether the Formal Drawings filed on July 18, 2003 are accepted. Applicant respectfully requests that the Examiner acknowledge and approve the aforementioned Formal Drawings.

**III. Allowable Subject Matter**

Applicant thanks the Examiner for indicating that claims 4, 6-12, 33 and 35-41 would be allowed if rewritten in independent form. However, Applicant respectfully requests that the Examiner hold in abeyance such rewriting until the Examiner has had an opportunity to reconsider (and withdraw) the prior art rejection of the other claims.

**IV. Claim Rejections Under 35 U.S.C. § 103**

The Examiner has rejected claims 1-2, 5, 30-31 and 34 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,510,224 to Christensson et al. (hereinafter "Christensson"). Claims 5 and 34 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Christensson and further in view of newly cited U.S. Patent No. 5,937,060 to Oh (hereinafter "Oh"). Applicant respectfully traverses these rejections for *at least* the reasons set forth below.

In order for the Examiner to maintain a rejection under 35 U.S.C. §103, the cited references must teach or suggest all of the recitations of claims 1-2, 5, 30-31 and 34. Applicant respectfully submits that Christensson fails to teach or suggest all of the recitations of claims 1-2, 5, 30-31 and 34.

**A. Independent Claim 1**

Independent claim 1 recites (among other things):

...an echo canceller for producing an echo replica from said distant signal and from a residual echo representing a difference between said near-end signal and said echo replica; and

a spectral shaper for receiving one of said near-end signal and said residual echo as a first input signal, receiving said echo replica as a second input signal, estimating said acoustic echo component by modifying said second input signal, and shaping spectrum of said first input signal with the estimated acoustic echo component.

The grounds of rejection allege that the estimated echo signal  $y(n)$  taught in Christensson corresponds to an echo replica, as recited in claim 1. The grounds of rejection also allege that

Christensson's error signal  $e(n)$  corresponds to a residual echo, as claimed. Further, the grounds of rejection allege that the near-end enhancement spectrum generator 309 of Christensson corresponds to the claimed spectral shaper.

Applicant respectfully disagrees with the grounds of rejection. Christensson fails to teach or suggest that the near-end enhancement spectrum generator 309 therein receives the error signal  $e(n)$  (i.e., the alleged residual echo) as a second input signal and estimates an acoustic echo component by modifying the received error signal  $e(n)$ , as required by claim 1.

Christensson also fails to teach or suggest that the near-end enhancement spectrum generator 309 receives one of the near-end signal and estimated echo signal  $y(n)$  (i.e., the alleged echo replica) as a first input signal and, then, shapes a spectrum of one of said near-end signal and estimated echo signal  $y(n)$  with the estimated acoustic echo component, which was estimated by modifying the received error signal  $e(n)$ , as further required by claim 1.

Indeed, the grounds of rejection fail to identify any specific aspect of Christensson that teaches or suggests the above features. Contrary to the requirements of claim 1, Christensson merely teaches that the output of the near-end enhancement spectrum generator 309 determines what type of filtering will be applied to the processed near-end voice signal 313 as a part of the voice activity strategy. Column 9, lines 53-67. However, Christensson nowhere teaches or suggests that the processed near-end voice signal 313 estimates an acoustic echo component by modifying a second input signal (i.e., echo replica) and shapes a spectrum of one of said near-end signal and estimated echo signal  $y(n)$  with the estimated acoustic echo component, as required by claim 1.

Therefore, Applicant submits that claim 1 is patentable over Christensson for *at least* these reasons. Moreover, the dependent claims 2 and 5 are patentable over Christensson *at least*

by virtue of their dependency. As such, Applicant respectfully requests that the Examiner withdraw these rejections.

**B. Independent Claim 30**

In view of the similarity between the requirements of claim 30 and the requirements discussed above with respect to independent claim 1, Applicant respectfully submits that arguments analogous to the foregoing arguments as to the patentability of independent claim 1 demonstrate the patentability of claim 30. As such, it is respectfully submitted that claim 30 is patentably distinguishable over the cited Christensson reference *at least* for reasons analogous to those presented above. Further, Applicant submits that the dependent claims 31 and 34 are allowable *at least* by virtue of their dependency on claim 30. Thus, the allowance of these claims is respectfully solicited of the Examiner.

**V. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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